

REMARKS

Reconsideration of the pending application is respectfully requested on the basis of the following particulars:

Rejection of claims 1-3, 5-7, and 10-26 under 35 U.S.C. § 102(e)

Claims 1-3, 5-7, and 10-26 presently stand rejected as being anticipated by Pearson et al. (U.S. 5,991,408). This rejection is respectfully traversed for at least the following reasons.

Claims 1 and 20 is amended to clarify that a biometric feature is subjected to fault tolerant encoding/decoding, wherein in the course of an authentication phase initialization biometric feature data is recovered from biometric data entered during authentication (digitized biometric authentication feature data) according to a coding-theory method *within a freely selectable tolerance interval*, and the recovered data used to further decrypt an encrypted code word and extract a secret data. Support for these amendments is found at lines 11-18 of page 7 of the original specification, and more generally at pages 7-11 of the original specification.

It is respectfully submitted that Pearson fails to disclose or suggest the method for protecting data as claimed. In particular, it is respectfully submitted that Pearson fails to disclose or suggest any recovery of an original representation of a biometric feature (generated during an initialization phase) by extracting the original representation from an authentication sample according to a coding-theory method within a freely selectable tolerance interval.

Pearson does not disclose or suggest any encryption/decryption of a biometric feature or of biometric feature data. Pearson represents a biometric feature (in particular, a fingerprint) by encoding minutiae of the fingerprint as vertices in a graph. Vertices in the graph are connected to form a clique. (see *Pearson*; col. 6, lines 25-45). Applicant respectfully submits that this is simply a method of representing the biometric feature, but

not a method of encrypting the biometric feature and more particularly is not a method of fault-tolerantly encrypting the biometric feature.

It can be recognized that a clique corresponds, essentially, to a representation of a fingerprint. Pearson does not perform any encryption or decryption of the clique, and more particularly performs no fault-tolerant encryption or decryption of the clique. Instead, the clique is “camouflaged through the addition of vertices and edges to the graph.” (*Pearson*; col. 6, lines 60-61). This does not alter the clique itself, but simply “[makes] it more difficult to find the clique camouflaged in the graph.” (see *Pearson*; col. 7, lines 9-10). Therefore, while the clique is hidden, it is not encrypted/decrypted and is not fault-tolerantly encrypted/decrypted.

Pearson does not recover an initialization-time biometric data from an authentication-time biometric data on the basis of a coding-theory method within a freely selectable tolerance interval.

In a method for authentication or identification, Pearson matches a user fingerprint (input during the authentication or identification) to an “instance of a problem” which is, essentially, the initialization-time representation of the fingerprint (or clique), camouflaged by additional camouflage vertices and edges. “This is done by determining if the vertices in representation of user fingerprint 416 match any of the vertices in the instance of the problem loaded in step 510. If a match is found then it is determined if the matching vertices form a clique. If they do form a clique then the instance of the problem is solved.” (*Pearson*; col. 8, lines 37-44).

While Pearson allows for correction for variations, this is different from extracting an original (initialization-time) biometric data from an authentication-time biometric data by a coding-theory method within a freely selectable tolerance interval (a fault-tolerant decryption of the authentication-time biometric data). Pearson does not disclose or suggest any extraction from an authentication-time biometric data by a coding-theory method within a freely selectable tolerance interval. Pearson “uses the vertices that match to help locate more vertices in the clique in the instance of the problem.” (*Pearson*; col. 8,

lines 58-60). "This is accomplished by determining if vertices in instance of problem 418 which are closest to unmatched vertices in representation of user fingerprint 416 are vertices in the clique in instance of problem 418."

In solving the problem, Pearson simply identifies which of several "instances of the problem," if any, most closely match an authentication-time fingerprint scan. This requires storage of each "instance of the problem," wherein each "instance of the problem" is a complete representation of the user's initialization-time fingerprint scan.

It is respectfully submitted that, therefore, Pearson's matching of an authentication-time fingerprint scan to an initialization-time fingerprint scan is entirely different from the presently claimed invention wherein initialization-time biometric data is extracted from an authentication-time biometric data on the basis of a coding-theory method within a freely selectable tolerance interval.

For at least these reason, it is respectfully submitted that Pearson fails to disclose or suggest each and every element set forth in the independent claims 1 and 20, or their respective dependent claims. Accordingly, it is respectfully submitted that claims 1-26 are allowable over the cited reference, and withdrawal of the rejection is requested.

Rejection of claims 4, 8, and 9 under 35 U.S.C. § 103(a)

Claims 4, 8, and 9 presently stand rejected as being unpatentable over Pearson in view of Camp, Jr. et al. (U.S. 6,075,987). This rejection is respectfully traversed for at least the following reasons.

As discussed above, Pearson fails to disclose or suggest each and every element set forth in claim 1. Accordingly, Pearson fails to form a prima facie case of obviousness of claim 1, or claims 4, 8, and 9 which depend from claim 1.

It is respectfully submitted that Camp fails to supplement the deficiencies of Pearson with regard to the features discussed above, and therefore Pearson and camp together fail to form a prima facie case of obviousness of claim 1, or claims 4, 8, and 8. Therefore, it is respectfully submitted that claims 4, 8, and 9 are allowable over the cited

references at least due to their dependency from claim 1, and withdrawal of the rejection is requested.

Conclusion

In view of the amendments to the claims, and in further view of the foregoing remarks, it is respectfully submitted that the application is in condition for allowance. Accordingly, it is requested that claims 1-26 be allowed and the application be passed to issue.

If any issues remain that may be resolved by a telephone or facsimile communication with the Applicant's attorney, the Examiner is invited to contact the undersigned at the numbers shown.

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Respectfully submitted,

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